



Designation: B666/B666M – 20

Standard Practice for Identification Marking of Aluminum and Magnesium Products¹

This standard is issued under the fixed designation B666/B666M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This practice establishes the physical item marking requirements for identification purposes for aluminum and magnesium products. Package marking for shipment and inspection acceptance is not within the scope of this standard.

1.2 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 The following documents of the issue in effect on the date of material purchase form a part of this practice to the extent referenced herein:

2.2 *ASTM Standards:*²

B361 Specification for Factory-Made Wrought Aluminum and Aluminum-Alloy Welding Fittings

B404/B404M Specification for Aluminum and Aluminum-Alloy Seamless Condenser and Heat-Exchanger Tubes with Integral Fins (Withdrawn 2006)³

B881 Terminology Relating to Aluminum- and Magnesium-Alloy Products

2.3 *ANSI Standards:*⁴

ANSI H35.1/H35.1M Alloy and Temper Designation Systems for Aluminum

2.4 *Military Standards:*⁵

MIL-STD-409 Alloy Nomenclature and Temper Designation System for Magnesium Base Alloys

3. Terminology

3.1 *Definitions:*

3.1.1 Refer to Terminology **B881** for definitions of product terms used in this practice.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *Marking:*

3.2.1.1 *spot marking*—marking the identification only once on the product.

3.2.1.2 *continuous marking*—recurring marking of the identification in intervals not greater than 40 in. [1000 mm] throughout the length of the product.

3.2.1.3 *perimeter marking*—marking continuously the identification in one or two rows adjacent to the four edges of the product.

3.2.1.4 *tagging*—attaching tags bearing the required identification markings to coils, bundles, or containers of items which are too small to mark or whose configuration preclude marking otherwise.

4. Basic Marking Requirements and Application

4.1 When this practice is required by the material specification or specified in the contract or purchase order, wrought

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from Aluminum Association, 1400 Crystal Dr., Suite 430, Arlington, VA 22202, <http://www.aluminum.org>.

⁵ Available from DLA Document Services, Building 4/D, 700 Robbins Ave., Philadelphia, PA 19111-5094, <http://quicksearch.dla.mil>.

*A Summary of Changes section appears at the end of this standard

aluminum and magnesium mill products shall be marked for identification purposes only with the following information on the product or on tags attached to the product:

4.1.1 *Name or Registered Trademark of Company*, which performs the final processing or finishing operation such as rolling, stretching, thermal treatment, etc., prior to marketing the product.

NOTE 1—The company that performs nothing more than a simple shearing or sawing operation may be excluded from marking the product with its name.

4.1.2 *Alloy and Temper of Product*—Designations shall be in accordance with ANSI H35.1/H35.1M for aluminum and MIL-STD-409 for magnesium.

4.1.3 *Basic Number of Specification to Which Product Was Produced*—The basic number does not include the revision indicator.

4.1.4 *Specified (Ordered) Dimensions of Products*:

4.1.4.1 *Sheet and Plate*—Thickness in inches [millimetres].

4.1.4.2 *Coiled Wire and Spooled Wire*—Diameter in inches [millimetres].

4.1.4.3 *Tube*:

(1) *Straight Lengths*—Outside diameter and wall thickness, in inches [millimetres].

(2) *Coiled*—Wall thickness, in inches [millimetres].

4.1.4.4 *Pipe*—Nominal pipe size and ANSI schedule number.

4.1.5 *Lot Number* shall be included in the product marking. The definition of lot shall be that as defined in the material specification.

4.1.5.1 For magnesium products, the applicable lot number shall be marked on each piece in at least one location.

4.1.6 When required by the material specification, the word “seamless” on certain tube or pipe.

NOTE 2—The requirements specified in 4.1 are minimum; marking systems that involve additional information shall be as agreed upon between the producer and the purchaser.

4.2 When this practice is required by the material specification or specified in the contract or purchase order, marking of cast aluminum products shall be in accordance with Section 6.

4.3 Product marking shall be such that it shall not rub off or be otherwise obliterated by contact arising from normal handling, exposure to the elements, shipment, and storage. The height of the characters shall be commensurate with the size of the product being marked; for example, not less than 0.375 in. [9 mm] for flat sheet and plate, not less than 0.250 in. [6 mm] for hand forgings, and not less than 0.125 in. [3 mm] for tubular products. Legibility of all markings shall be such as required for ready readability and the required permanency of identification.

4.4 Product marking shall be accomplished in a manner that will not adversely affect the subsequent fabrication of the material, or produce stresses that would be deleterious to the functioning of the finished product. Marking on the product shall be with marking fluid applied by printing, stamping, stenciling, or by laser marking. Ghost images of the characters may remain upon the removal of marking applied. Impression stamping is considered detrimental and shall not be used except on ingot, castings, forging, and certain tube products, or when required by prior agreement between the producer and purchaser. Unless prohibited by the purchaser, edge faces (Fig. 1) of plate product and ends of bar, rod, and profile products may be impression stamped as needed. Character size and depth shall not exceed any purchaser or product tolerances, as specified in the order or material specification.

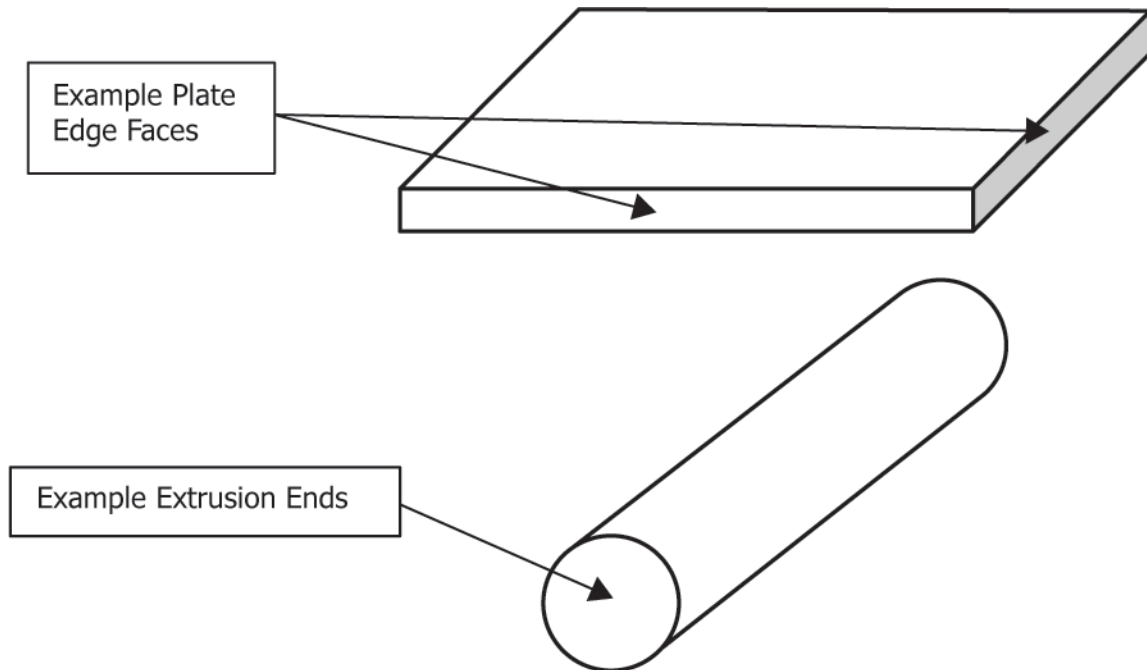


FIG. 1 Examples of Plate and Extrusion Edge Faces/Ends